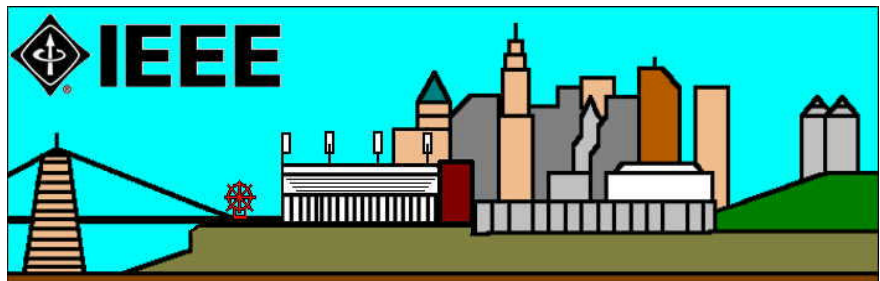


**IEEE CINCINNATI
SECTION
NEWSLETTER
APRIL 2007**



APRIL MEETINGS

There are two events this month: First is the Cincinnati Section's April Section Meeting featuring a presentation on Transient Voltage Surge Suppression. The second event is the 72nd Annual Engineers & Scientists of Cincinnati's Awards Banquet. Details on each event follow:

IEEE CINCINNATI SECTION APRIL MEETING
Transient Voltage Surge Suppression

DATE: Thursday, April 26, 2007

PLACE : Raffel's – 10160 Reading Road (see below for directions)

TIME : 5:30 p.m. to 6:00 p.m. - Social Time
6:00 p.m. to 7:00 p.m. - Dinner
7:00 p.m. to 8:30 p.m. - Presentation

COST FOR DINNER: **COST FOR IEEE STUDENT MEMBERS**
WILL BE FREE FOR THIS MEETING!!
\$10.00 per person (with advanced reservation - see below)
\$15.00 per person (at the door)

NOTE: DINNERS ARE ALWAYS OPTIONAL - YOU MAY ATTEND THE PROGRAM ONLY.

MENU SELECTIONS: Stuffed Pasta Shells, BBQ'd Ribs, Marinated Char-Grilled Chicken Breast, Au Gratin Potatoes, Seasoned Green Beans, Cole Slaw, Tossed Salad, Dinner Rolls and Butter, Assorted Cheese and Fruit Filled Tarts, Coffee, Tea, Iced Tea, Soft Drinks. There is also a bar available for the purchase of alcoholic drinks.

LOCATION: Raffel's is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately 3/4 of a mile to Reading Rd. and turn right on Reading.

RESERVATIONS: Please call the Cincinnati Section Voice Mailbox at **513-629-9380**, by **Noon, Tuesday, April 24, 2007** if you plan to attend. Please leave your Name, IEEE Member Number, and a daytime telephone number. You can also make a reservation by e-mailing our Arrangements Chair, Ron Harbaugh, at ron.harbaugh@ieee.org.

PE CREDITS: Depending on the subject matter, attendance at IEEE Cincinnati Section Meetings now qualifies the attendee for Professional Development Hours towards renewal of Professional Engineers Licenses. Required documentation will be available following the meeting! The Section Meetings also provide a great opportunity to network with fellow engineers in the area.

ABOUT THE MEETING: Mr. Carey Mossop from Eaton Electric will discuss Transient Voltage Surge Suppressor applications and the requirements for Transient Voltage Surge Suppressors per the February 9, 2007 update of UL 1449 2nd Edition. This meeting will qualify for one Professional Development Hour for PEs.

ABOUT THE SPEAKER: Carey Mossop - Eaton Electrical's Product Line Manager for TVSS - has over 25 years experience in the electrical industry, the last 17 of which have been served in various roles of increasing responsibility with Eaton. After starting his career as an electrician, Carey completed a Bachelor of Engineering degree from Lakehead University in 1989, and has since earned a Masters of Business Administration degree from Seattle University. He is the acting chairman of the Industry Development Council for TVSS Products with the National Electrical Manufacturers Association (NEMA). Carey is well respected for his Electrical expertise and speaks frequently to audiences regarding Transient Voltage Surge Suppression and other Power Quality issues and has been published in a number of industry periodicals.

72nd Annual Engineers & Scientists of Cincinnati's Awards Banquet

ENGINEERS AND SCIENTISTS of GREATER CINCINNATI
invites you to attend the
72ND ANNUAL RECOGNITION and AWARDS PROGRAM
to be held on Monday, April 30, 2007 at

**The Myers Alumni Center
University of Cincinnati**

TIME: 5:30 P.M. - Social / Cocktails
 6:30 P.M. - Dinner - Myers Alumni Center
 7:30 P.M. - Program

COST: \$40.00

Come and share the experience with other professionals, make new friends, enjoy good food and meet this year's award recipients!

Reservations: **Phone or e-mail: Jean DeLorenzo (513) 272-8300**
 Jean.DeLorenzo@Woolpert.com

Reservations must be made by April 20, 2007. You will need to provide names for nametags. A buffet dinner will be served with several choices, including a vegetarian entree'. Cancellations will need to be received prior to April 23, 2007 to avoid being charged for the evening.

Payment: Payable to ESC at the registration table with either cash or check

Speakers: Jim LeFeld (Duke Energy) - "Alternative Energy Sources for the Future" for Utilities &
 Darlene Radcliffe (Duke) - "Alternative Energy Sources for the Future" for Individual
 Households.

Entertainment: UC College Conservatory of Music

Questions: If you have any questions or need additional information, feel free to contact Stephen
 James at (513) 476-8267 or **sloan93@mac.com**

CHAIR'S MESSAGE

by Brian Resnick, Section Chair

We thank Mr. James Holtman for his very informative presentation "Using R for System Performance Analysis" at the March meeting. Jim introduced us to R, a (free) math tool that most of us should be using if only we knew it existed. Download it and check it out.

This month Carey Massop will be presenting information on transient voltage surge suppressors (TVSS). This is a hot topic for some considering the recent changes to UL 1449. This meeting qualifies as one Professional Development Hour for Ohio PEs.

EXCOM is making an effort to involve the student members in the activities of the Section. This month, we are offering free dinners to student members, and next month, we will feature Senior Design projects. The student branch at the University of Cincinnati College of Engineering is hosting the Region 2 Student Activities Conference on April 14. Many Section members are helping with this conference.

As a service to your fellow members, if you know of any job openings, please share them during the introductions at the beginning of our meeting.

IEEE recognizes your contributions to engineering by offering different levels of membership. If you have been an engineer for at least ten years and have contributed significantly (managed a project, written a paper, received a patent, etc.), you should apply to become a Senior Member. This recognition costs you nothing but the time to fill out the paperwork. In return, you receive a \$25 coupon to IEEE and a very nice plaque, and you help the Section by increasing the funds we receive from IEEE. Please contact me for details.

See you at Raffel's on April 26.

MEMBERSHIP NEWS

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Christine E. Aubuchon	Issa Ngwele
James B. Evans	John W. Pruss
Anthony L. Franzese	Gregory L. Roth
Heather R. Hall	Ronald J. Ruppensburg
Benjamin T. Hodson	Daniel R. Siemer
William F. Mellman	James F. Yoder
Jayant M. Naik	

We wish to welcome these new members to the Cincinnati Section!!!

Scanning the Past: A History of Electrical Engineering from the Past

Submitted by Dick Reiman, Historian

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Melville Eastham

Eighty years ago this month, the PROCEEDINGS OF INSTITUTE OF RADIO ENGINEERS (IRE) included a paper by Melville Eastham on the "Hytone" radio transmitter. At the time, he was a co-owner of the Clapp-

Eastham Company but would soon found the General Radio Company, which became well known for its product line of instruments and for its employee benefits.

In his December 1914 paper, Eastham described a spark-type radio transmitter made by the Clapp-Eastham Company. It employed a glass condenser charged by a low-frequency alternating current and discharged by a rotary spark gap. The discharge current passed through the primary winding of a transformer in which the secondary winding was connected between an antenna and ground. Periodic groups of sparks were produced by the rotary gap at a rate of about 1200 groups per second. The spark gap could be adjusted accurately to a length of about 0.075 mm. The company offered transmitters ranging in power from 250 W to around 5 kW and they could be used either for radio telegraphy with a tone circuit or for radio telephony. Emile E. Mayer, an engineer who commented on Eastham's paper, stated that Eastham deserved the "highest credit" and that the high-frequency wattmeter mentioned was of "extraordinary interest." Mayer observed that he and other members of the profession would be very appreciative if Eastham would develop a commercial version of the wattmeter .

Melville Eastham was born in Oregon City, OR, in 1885 and studied at Portland Academy. He worked for a time as electrician for a street railway company in Portland and then moved to New York City in 1905 where he worked for the Ovington X-ray Company. In 1906, he joined J. Emory Clapp and W. O. Eddy, two other Ovington employees, in organizing the Clapp, Eddy, and Eastham Company in Boston, MA. The company became known as Clapp-Eastham following the departure of Eddy and it manufactured X-ray equipment and soon began to sell spark coils, variable capacitors, and other devices to radio amateurs. Clapp sold his interest in the company to O. K. Luscomb in 1910 and he and Eastham moved to a new site in Cambridge, MA, the same year.

(Continued on Page 8)

MARK YOUR CALENDARS
U. C.'s College of Applied Science TECH EXPO 2007
to be held WEDNESDAY, MAY 16!!!!



What is Tech Expo?

The **Tech Expo Technology and Engineering Exhibition** is a showcase for the senior projects done by about-to-graduate students from UC's College of Applied Science. The event actually began in the 1800's as a Grand Exposition featuring manufacturers and other industrial organizations. Now 20+ years old, the modern Tech Expo is considered the **premier annual event for the College**. Last year's event featured 120+ student exhibits, 25 business partners, and enjoyed a record 1,100 visitors, including representatives from several area high schools.

The featured senior student design projects are a wonderful mix of creative design, complex project management and eye-catching ingenuity, and represent **engineering and related disciplines** including Mechanical Engineering Technology, Electrical Engineering Technology, Architectural Engineering Technology, Computer Engineering Technology, Information Technology, Construction Management, and more.

What role does business and industry play in the event?

First and foremost – **we encourage our business partners, including our many co-op employers, to attend the event!** Tech Expo is free and open to the public. Our students benefit greatly from interacting with members of the business community.

Many of our co-op employers and other businesses provide judges for Tech Expo. These **judges offer valuable insights** for our students by critiquing the projects and providing the students with an opportunity to discuss their work.

Additionally, we welcome businesses and organizations to sponsor Tech Expo exhibits. **We welcome corporate displays** that show the innovative ways businesses use technology to be successful. Last year, our 20+ business exhibitors found participating to be a great way to **network** with UC faculty and alumni and to do some **informal recruiting** of some of the best College of Applied Science students!

Another partnership opportunity for businesses - teaming up with a student or group of students **to develop and sponsor a senior project**. Several businesses, primarily through the co-op program, have done this in the past. It is a great way for College of Applied Science seniors to work at solving real life problems while businesses get great ideas and hard work from talented students!

Outreach to Younger Students

An important initiative for the College of Applied Science is to **increase awareness of engineering and technology among elementary, middle and high school students**. Over the past two years, we have increased our efforts to have these younger students attend Tech Expo, and have invited several schools to exhibit and participate in engineering-based competitions during the event. This initiative benefits CAS through increased admissions, benefits businesses by developing a ‘pipeline’ of potential employees, and benefits young students, who are exposed to a variety of disciplines and careers.

In 2007, we plan to invite area high school students to be exposed to the **BEST Program, a joint partnership between UC’s College of Engineering and College of Applied Science**. This program is designed to get younger students excited about engineering through the use of robotics and other cutting-edge technologies.

What’s New at CAS?

- A new “Power Engineering” program, offered through the Electrical Engineering Technology department – we will be one of just a few such programs in the country
- A completely renovated Information Technology program
- Plans for a new Facilities Management program
- A new Construction Innovation Center, funded by a consortium of companies including contractors, law, consulting and architecture firms
- An Honors Program

And much more!

Just the Facts...

- ❑ Wednesday, May 16, 2007 – **note new date!**
- ❑ 10am – 4pm
- ❑ Duke Energy Center in downtown Cincinnati
- ❑ Scheduled events include a mid-day alumni/co-op employer networking reception and an awards ceremony recognizing top student projects
- ❑ Free and open to the public!
- ❑ For more information, contact Betsy Zelek at (513) 702-2732

College of Applied Science



TECH EXPO

Wednesday, May 16, 2007

Duke Energy Center

(Convention Center – downtown Cincinnati)

contact:

Betsy Zelek

513-702-2732

bzms@zoomtown.com

UNIVERSITY OF
Cincinnati

TECH EXPO 2007

***Become a
Sponsor***

Levels of Participation

EDISON

\$2500

- Be featured as the sponsor of a community of student and business exhibits in your field or discipline. As a sponsor, your 10' x 10' exhibit booth will be placed in a premium location and will feature special signage and draping. *This benefit will be offered to a very limited number of companies and organizations!*
- Sponsor a departmental award named for your business — award will honor a top student display at Tech Expo
- Receive a complimentary booth at the popular CAS Job Fair, held in 2007-08 — a \$250 value that provides access to hundreds of students and alumni!
- Receive special recognition for your company at the networking reception at Tech Expo 2007
- Assist in selection of the *Industry Partners Commendation Award* for the best senior project display
- Have a photo of your Expo booth *plus* a special listing as an Edison Community Sponsor in the 2007-08 edition of *Tech Record* (alumni publication — distribution 10,000)
- Special listing as an Edison Community Sponsor in the 2007 edition of the Tech Expo Program

RIEVESCHL

\$1500

- Sponsor a departmental award named for your business — award will honor a top student display at Tech Expo 2007
- Receive a complimentary booth at the popular CAS Job Fair, held in 2007-08 — a \$250 value that provides access to hundreds of students and alumni!
- Assist in selection of the *Industry Partners Commendation Award* for the best senior project display
- 10' x 10' display booth during Tech Expo 2007
- Corporate listing in 2007-08 edition of *Tech Record* (alumni publication — distribution 10,000)
- Corporate Listing in 2007 edition of the Tech Expo Program

PARKER

\$750

- 10' x 10' display booth during Tech Expo 2007
- Corporate Listing in 2007-08 edition of *Tech Record* (alumni publication — distribution 10,000)
- Corporate Listing in 2007 edition of the Tech Expo Program

Your sponsorship is tax deductible to the fullest extent of the law. Checks should be made payable to the University of Cincinnati Foundation.

NEW FOR '07!

INNOVATOR LEVEL A full year of benefits for your company. Gain exposure to CAS students and faculty and valuable recognition as a leader in the technology workplace while supporting this premier event, TECH EXPO. Contact us for more information.

TECH EXPO 2007

Join us as a Sponsor Today!
Please note - Date Change

Tech Expo, our region's premier technology exposition, is now scheduled for Wednesday, May 16 at the Duke Energy Center. Mark your calendars and plan to join us for this exciting event.

Sponsor and Exhibitor Opportunities are available now!

⇒ Gain exposure to College of Applied Science students and see an amazing array of senior design projects. ⇒ Earn valuable recognition as a leader in the technology workplace while you support the College and its programs. ⇒ Interact with middle and high school students who are considering engineering, science and technology fields of study. ⇒ Network with UC faculty and administrators who are helping to shape tomorrow's technology workforce.

For more information, contact Betsy Zelek at (513) 702-2732 or by email at bzms@zoomtown.com

**Scanning the Past: A History of Electrical Engineering from the Past
Melville Eastham**

(Continued from Page 4)

In 1915, Eastham left Clapp-Eastham to form the General Radio Company which began with a capitalization of \$9,000 and with Eastham and a skilled machinist as the sole employees. Its first products as listed in a 1916 catalog included an absorption wavemeter, a decade resistance box, a variable inductance, and a variable capacitor. The company enjoyed early success resulting from a strong demand for radio equipment for military communication during World War I and from the radio broadcasting boom soon after the war. By the mid 1920's, Eastham had decided to leave the radio transmitter and receiver business to others and to concentrate on precision instruments for industry and educational institutions. Known as an engineer's company, General Radio became known for the accuracy, durability, and craftsmanship that went into its instruments. New instruments

added during the late 1920's and early 1930's included a vacuum-tube voltmeter, an impedance bridge, and an oscilloscope.

Eastham also exhibited a great interest in employee benefits and the company initiated a profit sharing bonus plan in 1917 and began to pay the premiums for employee life insurance plans in 1918. In 1919, the company adopted a forty-hour work week and increased the number of paid holidays to nine per year. An employee stock ownership plan was implemented beginning in 1929.

Eastham was quite active in the IRE, becoming a Fellow in 1925, and serving as Treasurer from 1927 to 1940. He received the Institute's Medal of Honor in 1937. During World War II, he was in charge of a successful effort to develop the radio navigation system known as LORAN at the Radiation Laboratory at the Massachusetts Institute of Technology. Eastham stepped down as president of General Radio in 1944 but retained the title of chief engineer until his retirement in 1950. He died in 1964 at the age of 78.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

IEEE NEWS

THE LATEST ISSUE OF IEEE'S "THE INSTITUTE" IS NOW AVAILABLE AT

<http://www.ieee.org/theinstitute>

Included in this issue:

- How Today's Techies Work: If you communicate mostly through e-mail, spend half your day in meetings, and search the Internet for the latest research, don't worry--that's perfectly normal, according to an IEEE study. To learn more about the study's results, visit <http://bmsmail3.ieee.org:80/u/5680/04824637>
- Board Names Three for 2008 President-Elect: The candidates for 2008 IEEE President-Elect are Marc Apter, Pedro Ray, and John Vig. The three will face off during the next annual election, along with any petition candidates added to the ballot. To learn more about them, go to <http://bmsmail3.ieee.org:80/u/5681/04824637>
- Two Petition to Be on Annual Election Ballot: Two IEEE members are petitioning to be placed on the 2007 annual election ballot. Fellow Ralph W. Wyndrum Jr. is running for 2008 IEEE President-Elect and Fellow Roger D. Pollard for 2008 Vice President-Elect, Technical Activities. Eligible voting members who want to sign the candidates' electronic petitions can do so at <http://bmsmail3.ieee.org:80/u/5682/04824637> This site also contains background information on each candidate. Read more at <http://bmsmail3.ieee.org:80/u/5683/04824637>
- Marketplace of Ideas: Will a Toned-Down YouTube Tank? YouTube, a video-sharing Web site, became popular by allowing users to upload almost any video, but that may soon change. YouTube has promised to use antipiracy software to track down and remove content that violates copyright law. Critics say taking down that content will lead to the Web site's demise because YouTube thrives on the free sharing of popular copyrighted TV shows and movie clips.

How do you think the antipiracy crackdown will affect the popularity of YouTube? Weigh in at institute@ieee.org

And read responses to December's question on whether increased safety on planes is worth being closely monitored with new onboard technology. Answers ranged from questioning the efficacy of the technology to saying there's no such thing as privacy on planes anyway. Read what members had to say at <http://bmsmail3.ieee.org:80/u/5686/04824637>

- Claire Tomlin: Genius Engineer : When it comes to helping others, Senior Member Claire Tomlin covers a lot of ground: she's a teacher at two different California universities, and she's making flying safer with an airplane collision avoidance system she developed for NASA. Read more at <http://bmsmail3.ieee.org:80/u/5687/04824637>
- IEEE, the TV Network: For the last eight months, the IEEE has been producing videos about technology and engineering for its own TV network. So far, 16 videos have been completed and are available for viewing on demand from IEEE.tv. To learn more about this new benefit for members, check out <http://bmsmail3.ieee.org:80/u/5689/04824637>
- The Puzzle of Peer Review Solved: Have you ever wondered if you could be part of the peer-review process? Learn the ins and outs of being a peer reviewer and how you can get involved at <http://bmsmail3.ieee.org:80/u/5690/04824637>
- Standards for Car Talk: Four new IEEE standards allow cars to chat with each other and with roadside systems to spread the word about congestion, road conditions, and accidents. Find out more at <http://bmsmail3.ieee.org:80/u/5691/04824637>
- IEEE Spectrum Radio Reports on Changing Cars' Characters: Minivans are sensible, red sports cars are daring, and big SUVs are intimidating--and the way they handle usually reflects those attributes. But suppose you could use electronics to completely change a car's character? Listen to IEEE Spectrum Auto Editor John Voelcker's podcast report at <http://bmsmail3.ieee.org:80/u/5693/04824637>
- Getting Automation Some Respect: Many people hearing the word "automation" picture robots assembling cars in a factory. But an IEEE quarterly journal has, since its introduction almost three years ago, been making every effort to establish automation as a science in its own right and a field separate from robots in manufacturing plants. Read on at <http://bmsmail3.ieee.org:80/u/5787/04824637>
- Copy-and-Paste Papers Put Profs on the Offensive: The Internet may have created a copy-and-paste world for students who plagiarize, but the reasons more and more of them are lifting material are complicated, as a number of engineering professors have discovered. To learn more, visit <http://bmsmail3.ieee.org:80/u/5788/04824637>
- The Plagiarism Problem: Now You Can Help: Plagiarism is on the rise, but the IEEE is not sitting idly by and watching the problem grow. It has recently developed online tools that explain its new procedures and its punishment for plagiarism. Find out more at <http://bmsmail3.ieee.org:80/u/5789/04824637>
- Indian Subsection Raises Environmental Awareness: Members of the IEEE Pune, India, subsection launched an Environment Issues Awareness Drive aimed at the students and faculty of the more than 25 engineering colleges in the city. The goals were to provide directions for curtailing waste and encouraging the recycling of resources, and to create concern about the environment in general. Learn more about the awareness drive at <http://bmsmail3.ieee.org:80/u/5791/04824637>

- Record Set for New Senior Members: The IEEE raised 2608 members to senior members last year, the largest yearly number ever, and 15 percent more than in 2005. This number also surpasses the goal of 2400 elevations set by the institute's membership development committee. For more information, and for a regional breakdown of the statistics, visit <http://bmsmail3.ieee.org:80/u/5792/04824637>
- Attracting Women to Engineering: The IEEE's Women in Engineering Committee and the IEEE Educational Activities Board are teaming up to help provide universities with hands-on projects designed to encourage women to pursue degrees in electrical engineering and computer science. For more on the initiative, check out <http://bmsmail3.ieee.org:80/u/5794/04824637>
- Five Named to Board of Directors: Find out who the five new members of the Board of Directors are at <http://bmsmail3.ieee.org:80/u/5795/04824637>
- Dual Conference Beams In on Laser Optics and Photonics: More than 6000 people will be attending the Conference on Lasers and Electro-Optic and the Quantum Electronics and Laser Science Conference in Baltimore from 6 to 11 May. For 40 years, these conferences and their predecessors have been important venues for leading researchers in laser optics and photonics to present their most significant findings. Learn more at <http://bmsmail3.ieee.org:80/u/5796/04824637>
- Nominations Needed for 2007 Education Awards : The IEEE Educational Activities Board is seeking nominations for seven existing awards as well as a new one to be given out in 2007. The deadline for nominations is 30 April. For descriptions of the awards, go to <http://bmsmail3.ieee.org:80/u/5798/04824637>
- Two Conferences Seek Papers: Power.org, a program of the IEEE Industry Standards and Technology Organization (ISTO) is seeking papers for its first Power Architecture Developer Conference. The deadline is 20 April. To be held 24 and 25 September in Austin, Texas, the conference will feature technical sessions, hands-on labs, and presentations on power architecture technology. IEEE-ISTO offers industries support services for the development and implementation of standards and technology activities. For more information, visit <http://bmsmail3.ieee.org:80/u/5799/04824637>

Also, the IEEE History Committee and the IEEE History Center are seeking papers for the 2007 IEEE Conference on the History of Electric Power. The deadline to submit papers is 15 April. The conference, to be held 3 to 5 August in Newark, N.J., is cosponsored by the IEEE and Rutgers, The State University of New Jersey. For more information, visit <http://bmsmail3.ieee.org:80/u/5800/04824637>

- IEEE Spectrum Radio Covers Smart Parking: As vehicular technology has advanced, parking a car has remained largely unchanged. In most municipalities, the street-side meters for paying parking fees are still not much more than egg timers. IEEE Spectrum Radio reports on a host of new smart-parking technologies that make paying to park, as well as finding a parking space, easier than ever. Tune in at <http://bmsmail3.ieee.org:80/u/5801/04824637>

The IEEE Cincinnati Section Executive Committee

Member Names and Phone Numbers

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